

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE				ATTY. DOCKET NO. 110199.405USPC	APPLICATION NO. 10/568,654	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				APPLICANTS Michael Patrick Murphy et al.		
				FILING DATE February 22, 2007	GROUP ART UNIT XXX 1614 1656	
U.S. PATENT DOCUMENTS						
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/R.H./	AA 3,532,667	10/06/70	Singh et al.	524	99	
	AB 6,133,322	10/17/00	Rustin et al.	514	689	
	AC 2002-0052342	05/02/02	Murphy et al.	514	75	
	AD 2003-0069208	04/10/03	Murphy et al.	514	75	
	AE 2004-0106579	06/03/04	Murphy et al.	514	75	
	AF 2006-0229278	10/12/06	Taylor et al.	514	58	
	AG 2007-0270381	11/22/07	Murphy et al.	514	100	
	AH 2008-0161267	07/03/08	Taylor et al.	514	58	
/R.H./	AI 2008-0275005	11/06/08	Murphy et al.	514	100	
AJ						
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EXAMINER	/Raymond Henley iii/			DATE CONSIDERED 03/19/2010		

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FOREIGN PATENT DOCUMENTS					
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO
/R.H./	BA	0 289 223 A1	11/2/88	EP	
	BB	5356036 B1	04/07/93	EP	
	BC	549366	04/15/98	EP	
	BD	59-39855	03/05/84	JP (+English Abstract)	
	BE	5-310763	11/22/93	JP (English Abstract Only)	
	BF	7-2223991	08/22/95	JP (+English Abstract)	
	BG	8-239340	09/17/96	JP (+English Abstract)	
	BH	09-278770	09/29/06	JP (+English Abstract)	
	BI	513547	01/07/03	NZ	
	BJ	91/19815 A1	12/26/91	PCT	
	BK	95/26973 A1	10/12/95	PCT	
	BL	03/016323	02/27/03	PCT	
	BM	05/019232 A1	03/03/05	PCT	
	BN	99/026582 A2	6/3/99	PCT	
	BO	99/026954 A1	06/30/99	PCT	
/R.H./	BP	03/065882 A2	08/14/03	PCT	
	BQ				
	BR				

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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

/R.H./	CA	Burns, R., et al., "Labeling Of Mitochondrial Proteins In Living Cells By The Thiol Probe Thiobutyltriphenylphosphonium Bromide," <i>Arch .Biochem .Biophys.</i> , 339(1):33-9, March 1, 1997.
	CB	Burns, R., et al., "Synthesis and Characterization Of Thiobutyltriphenylphosphonium Bromide, A Novel Thiol Reagent Targeted To The Mitochondrial Matrix," <i>Arch. Biochem. Biophys.</i> , 322(1):60-8, September 10, 1995.
	CC	Chen, L.B., "Mitochondrial Membrane Potential in Living Cells," <i>Annual Review of Cell Biology</i> , 4:155-181, November 1988.
	CD	Coulter et al., Mitochondrially targeted antioxidants and thiol Reagents, <i>Free Radical Biology & Medicine</i> (2000), 28(10), 1547-1554.
	CE	Davey, G.P., et al., "Uptake and accumulation of 1-methyl-4-phenylpyridinium by rat liver mitochondria measured using an ion-selective electrode," <i>Biochem J.</i> , 288(Pt 2): 439-443, 1992 December 1, 1992.
	CF	Dean, W., et al. "Mitochondrial Nutrition, Aging and Cognition," <i>Smart Drug News</i> (5)2, August 1, 1996.
	CG	Ernster, L. et al., "The mode of action of lipid-soluble antioxidants in biological membranes: relationship between the effect of ubiquinol and vitamin E as inhibitors of lipid peroxidation in submitochondrial particles," <i>BioFactors</i> 3(4): 241-248 1992.
	CH	Everett, S., et al., "Scavenging Of Nitrogen Dioxide, Thiyil, And Sulfonyl Free Radicals By The Nutritional Antioxidant Beta-Carotene," <i>J. Biol. Chem.</i> , 271(8):3988-94, February 23, 1996.
	CI	Goto, G., et al., "A Facile Synthesis of 1,4-Benzooquinones Having a Hydroxyalkyl Side Chain," <i>Chem Pharm Bull (Tokyo)</i> , 33(10):4422-31, 1985. cited by other .
	CJ	Grisor, J. Martin et al., "Cardioselective ammonium, phosphonium, and sulfonium analogues of alpha-tocopherol and ascorbic acid that inhibit in vitro and ex vivo lipid peroxidation and scavenge superoxide radicals," 1: <i>J Med Chem.</i> 38(15):2880-6, July 21, 1995.
	CK	James, A.M. et al., "Antioxidant and prooxidant properties of mitochondrial coenzyme Q," <i>Arch. Biochem. Biophys.</i> 423, 47-56, 2004.
/R.H./	CL	Jauslin, M. L., et al., "A cellular model for Friedreich Ataxia reveals small-molecule glutathione peroxidase mimetics as novel treatment strategy," <i>Human Molecular Genetics</i> , 11(24):3055-3063, 2002.

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/R.H./	DA	Jauslin, M., et al., "Mitochondria-Targeted Antioxidants Protect Friedreich Ataxia Fibroblasts From Endogenous Oxidative Stress More Effectively Than Untargeted Antioxidants," <i>FASEB J.</i> , 17(13):1972-4, October 2003.
	DB	Kamo, N. et al., "Membrane potential measured with an electrodes sensitive to tetraphenyl-phosphonium and relationship," <i>J Membr. Biol.</i> , 49:105-121, 1979.
	DC	Keinan, E. et al., "Total synthesis of linear polyprenoids. II: Improved preparation of the aromatic nucleus of ubiquinone," <i>J. Org. Chem.</i> 52(17) 3872-3875, 1987.
	DD	Kelso, G., et al., "Prevention Of Mitochondrial Oxidative Damage Using Targeted Antioxidants," <i>Ann. NY Acad. Sci.</i> , 959:263-74, April 2002.
	DE	Koyama, Mayumi, et al., "Synthesis of Fluorine Analogs of Vitamin E. II. Synthesis of 2-(3-chloropropyl)-2,5,7,8-tetramethyl-6-chromano and its application for stereocontrolled Wittig reaction and trifluoromethyl ketones," <i>Chemical and Pharmaceutical Bulletin</i> , 36(8):2950-2954, 1988.
	DF	Masaki, N. et al., "Mitochondrial Damage as a Mechanism of Cell Injury in the Killing of Cultured Hepatocytes by tert-Butyl Hydroperoxide," <i>Archives of Biochemistry and Biophysics</i> , 270(2): 672-680, May 1, 1989. (Abstract only)
	DG	Masaki, N., et al., "Intracellular Acidosis Protects Cultured Hepatocytes From The Toxic Consequences Of A Loss Of Mitochondrial Energization," <i>Arch Biochem Biophys.</i> , 272(1):152-61, July 1989. (Abstract only)
	DH	McKittrick et al., "Synthesis of the Yeast Antioxidant Benzofuran and Analogs," <i>J. Chem. Soc. Perkin Trans. 1</i> :709-712(721?), 1984.
	DI	Okamoto, K., et al., "Synthesis of quinones having carboxy- and hydroxy-alkyl side chains, and their effects on rat-liver lysosomal membrane," <i>Chem Pharm Bull (Tokyo)</i> . Aug. 1982; 30(8):2797-819.
/R.H./	DJ	Rottenberg H., "The measurement of membrane potential and deltapH in cells, organelles, and vesicles," <i>Methods Enzymol.</i> , 55:547-569, 1979.
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/R.H./	EA	Sakamoto, K. et al., "Role of the isoprenyl tail of ubiquinone in reaction with respiratory enzymes: studies with bovine heart mitochondrial complex I and Escherichia coli bo-type ubiquinol oxidase," <i>Biochemistry</i> 37(43), 15106-15113, October 27, 1998.
/R.H./	EB	Smith, Robin A.J., et al. "Targeting Coenzyme Q Derivatives to Mitochondria," <i>Methods in Enzymology; Quinones and Quinone Enzymes, Part B</i> , 382: 45-67, 2004.
/R.H./	EC	Smith, Robin, A.J. et al., "Selective targeting of an antioxidant to mitochondria," <i>European Journal of Biochemistry</i> , 263:709-716, 1999.
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